



# Objective Family of Small Arms Enhancements



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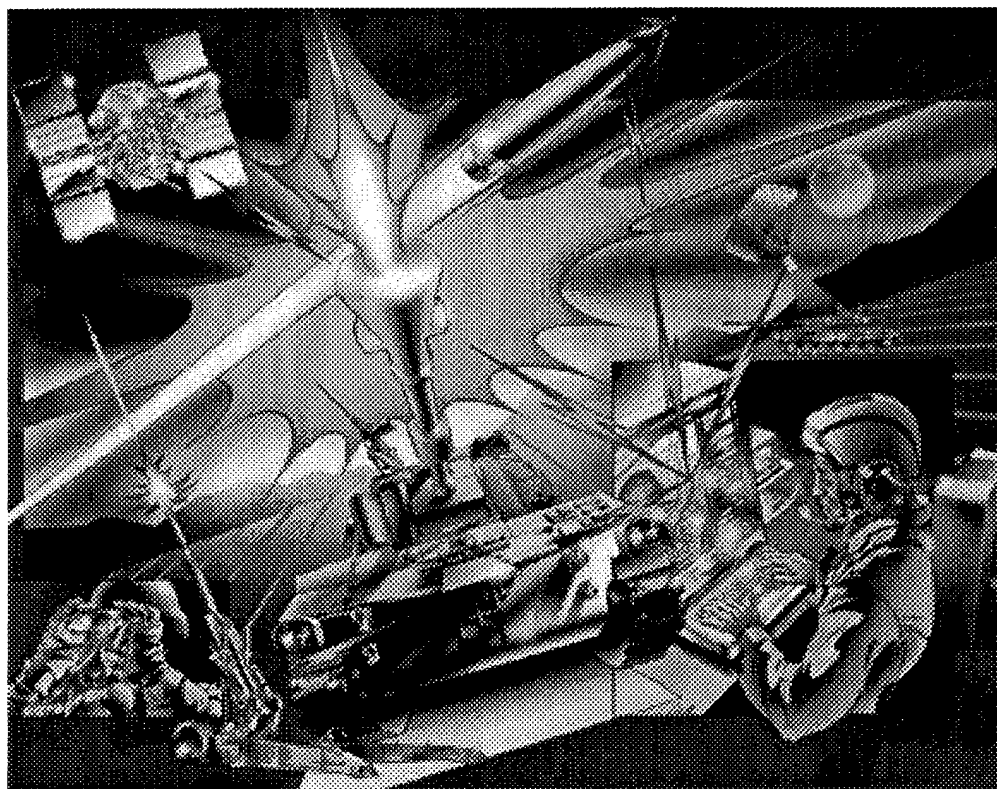
Tank-automotive & Armaments COMmand  
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# Joint Service Small Arms Program

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## What's Beyond OICW & OCSW for JSSAP?



# Series Future Small Arms Conclaves

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## Products

- Technologies worthy of detailed assessment
  - Assessments of promising technologies viz-a-viz
    - Objective Family Upgrades
    - Follow-on Small Arms Systems e.g.  
Army After Next
  - Roadmap for 21st Century Exploratory Development
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# Joint Service Small Arms Program

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## What's Beyond OICW & OCSW for JSSAP?

- Enhancements to the Objective Family
  - Conducted in Parallel to Development Program
  - Reduce Developmental Risk
  - Provide for Performance Growth and Upgrades
- Investigate Leading Technologies for Beyond OICW
  - Support Army After Next

# Series Future Small Arms Conclave

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## Who is Involved?

- **Technology Leaders**
  - Government
  - Industry
  - Academia
- **Military Planners**
- **Futurists**



# Conclave #1

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- Held 9-10 July 1997
  - Focused on Improvements to the Objective Family of Small Arms
  - Provides Risk Reduction to the EMD Program FY00-05
  - Sets Stage for Product Improvements and Block Insertions to OICW, OCSW and Land Warrior.
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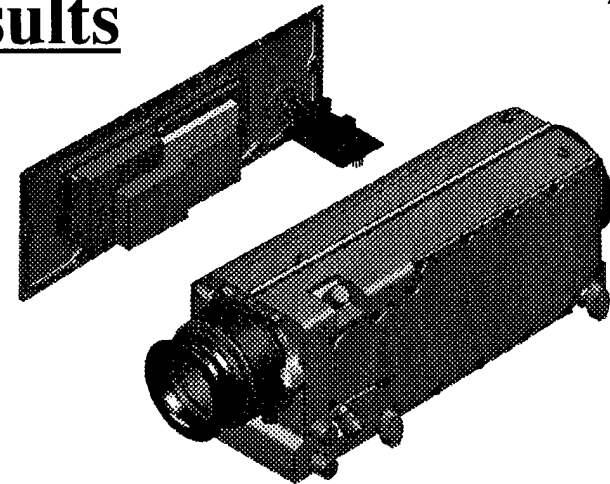
# Conclave #1

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## Emerging Results

### Sensors / Electronics:



- **Multi Function Laser**
    - **Ranging, CID, Training, Pointing**
  - **High Power CPU for Additional Functions**
  - **Advanced Target Detection & Image Processing**
  - **Enhanced Power Management**
  - **Aim Point & Image Stabilization**
  - **Link to Other Battlefield Sensors**
  - **Battle Damage Assessment / Replay**
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# Conclave #1

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## Emerging Results

### Human Factors:

- Individualizing Weapon to User
- Stronger Human-Weapon Relationship
- Indirect Sighting
- Voice Recognition and Command
- Built-in Field and Maintenance Training
- Weapon Status Monitor
- Further Recoil Mitigation





# Conclave #1

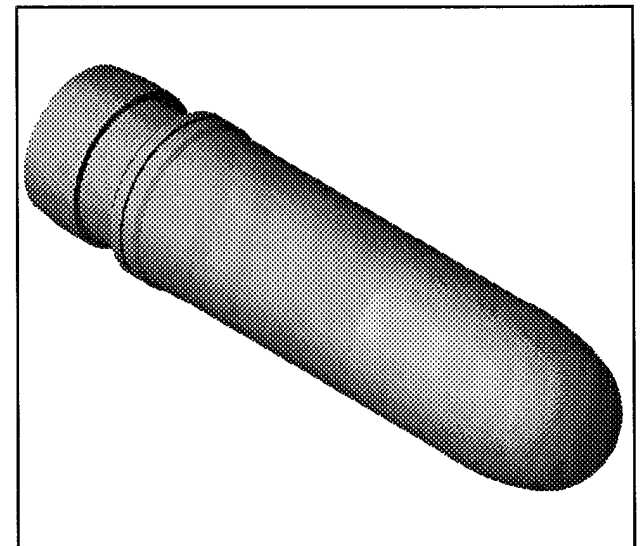
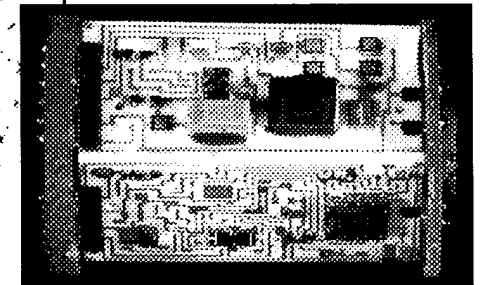
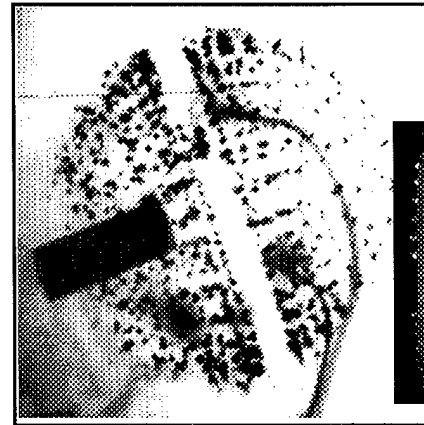
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## Emerging Results

### Lethality / Incapacitation:

- **Fuze Size and Weight Reductions**
  - Apply Savings to Warhead
- **Directed Fragments**
  - Alternate Selectable Initiation Points
  - Asymmetric or Deformable Warhead
- **Insensitive Munitions**
- **Increased Behind Armor Effects**
- **Defeat of Enhanced Body Armor**



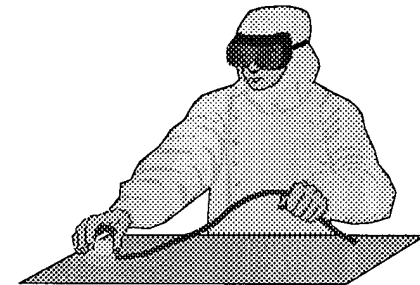
# Conclave #1

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## Emerging Results



### Other Considerations:



- **HE Barrel**
    - **Thinner Barrel Overwrapped with Polymer Matrix Composite**
  - **KE Barrel**
    - **Metal Matrix Composites and Ceramics**
  - **Weapon as a Launch Platform**
    - **Sensors for Targeting and Info Gathering**
    - **Anti-Materiel Payloads**
    - **Non-Lethal Devices**
  - **Enhanced Thermal and Acoustic Management**
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# Objective Family Enhancement Program

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## Summary

- **Further Assessments and Planning Sessions Will Evolve the Enhancement Program**
- **Efforts Will Begin in FY00 When OICW is Transitioned to PM Small Arms for Development**
- **Efforts Will be Coordinated With the OICW & OCSW Development to:**
  - **Transition at First Unit Equipped**
  - **Provide Follow-On Block Up-Grades**

